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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/239,907	01/29/1999	ANDREW MACCORMACK	858063.435	6683

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EXAMINER	
BELIVEAU, SCOTT E	
ART UNIT	PAPER NUMBER
2614	20

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/239,907	MACCORMACK ET AL.	
	Examiner	Art Unit	
	Scott Beliveau	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1,3-11 and 13-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1, 3-11, and 13-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 20 .
4) ☑ Interview Summary (PTO-413) Paper No(s). 17 .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 29 April 2003 was filed after the mailing date of the Final Rejection on 02 January 2003. The applicant indicated to the examiner that a paper copy of the IDS was mailed, however as of the writing of this Office Action that copy has not been received and the examiner is required to respond to After Final amendments/reconsiderations within 30 days of receipt. According, the examiner has considered the references noted in the faxed version of PTO-1449 sent by Robyn Granger on 20 May 2003, as it was indicated to be a copy of the mailed in version. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner as indicated is considering the information disclosure statement.

Response to Amendment

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Response to Arguments

3. Applicant's arguments, filed 29 April 2003, with respect to the rejection(s)of claim(s) 1, 3,-11 and 13-20 under 35 U.S.C. 102 have been fully considered and is persuasive in so far as the Dokic et al. reference does not explicitly disclose the limitation pertaining to the "outputting an address in memory". However, upon further consideration, a new ground(s) of rejection is made in view of Dokic et al. and the ADSP-2100 Family User's Manual which

provides details as to the memory addressing of the digital signal processor utilized in the Dokic et al. embodiment (Col 7, Lines 53-55).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1, 3-11, and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dokic et al. (US Pat No. 5,959,659), in view of the ADSP-2100 Family User's Manual – Chapter 4: Data Transfer.

In consideration of claims 1 and 10, the examiner refers the applicant to the Dokic et al. reference, which discloses a decoder or "set-top-box" (instant application: Page 3, Lines 1-6) that may function as a "receiver for the demultiplexing digital data streams . . . including data packets having a packet identifier" such as those defined by the MPEG-2 specification (Col

1, Lines 19-23; Col 2, Lines 45-65). As is known in the art, and disclosed in the instant application, there are a number of known techniques for a receiver performing the demultiplexing of time multiplexed MPEG-2 transport packets (Page 4, Lines 14-15). The aforementioned Dokic et al. reference reads on the claimed language in view of Figures 3 and 5. Figure 3 illustrates a block diagram of the "receiver" architecture comprising: "input circuitry for receiving the digital data stream" [112], a demultiplexing section [104], and a control section [108] (Col 5, Lines 60-67 – Col 6, Lines 1-9). Referring now to Figure 5, the demultiplexing section is further shown to comprise "a memory for storing packet identifiers" [205], "a first control circuit" or host microprocessor [106], and a "second" and "third control circuit" embodied via the controller [204] of the digital signal processor [102].

With respect to the limitation pertaining to the "second" and "third" control circuit, the claim language does not explicitly restrict that designation of the "second" and "third" circuit is not merely a functional recitation that can be met by a single element performing the operable functions. Accordingly, the examiner has interpreted the aforementioned divisions as being capable of being either a physical or functional division. The reference discloses that Figure 5 contains high level "block diagrams" (Col 7, Lines 60-66) and as such it reasonable to presume that it would only involve routine skill in the art to conclude that the controller [204] embodiment may be comprised of more than one "circuit".

The reference further describes the interaction between the aforementioned components. The "first control circuit" provides "packet identifiers of data packets required by the receiver" to the "memory" [205] (Col 8, Lines 28-31, 58-60; Col 9, Lines 10-23). The "second control circuit" extracts the payloads of the transport packets including "control

information" responsive to a "match signal" as indicated by the "third control circuit" (Col 8, Lines 20-52; Col 9, Lines 18-43).

As to the limitation pertaining to the "control information", while the applicant's response of 29 April 2003 clarifies what the control information may comprise, the claimed language merely requires that "control information" is something that is "associated with the packet identifier". The reference teaches that the MPEG-2 transport stream may comprise packets of "control information" such as the program map table (PMT) or program association table (PAT) from the MPEG-2 transport stream (Col 4, Lines 22-27). These program specific information (PSI) tables are associated with reserved packet identifiers (PID) (ISO/IEC 13818-1: Section 2.4.4). As such, the Dokic et al. reference teaches that the PID from the received packet is parsed from the transport packet to identify the type of data carried by the transport packet. Accordingly, "control information" may be temporarily stored in the packet buffers [200/202] prior to being transferred to the host processor [106] (Col 9, Lines 29-43).

Alternatively, it is further noted that the packet header may further comprise "control information" in the form of timing information (PCR) used in the decoding of the payload. The packet buffers [200/202] or "memory" are disclosed to store the entire transport packet comprising "control information associated with the packet identifier" (Col 7, Lines 66-67 – Col 8, Lines 1-4). The Dokic reference goes on to suggest that either the "entire packet" or the payload may be forwarded from the "memory" (Col 9, Lines 39-43). The claim language is subsequently not limiting such that the "entire packet" comprising both the identifier and

the "control information associated with the identifier" contained within the packet header may be "accessed" and "demultiplexed".

With respect to the limitation pertaining to "outputting an address", the Dokic reference does not explicitly disclose nor preclude details pertaining to the retrieval of information through a "memory address". The examiner's interpretation of the claim is such that upon a determination of a "match" identifying information associated with an "identifier stored in memory" [205] that the "control circuit" [204] "outputs the address" associated with the packet for further processing. With respect to applicant's comments that the selection of the "buffer is based solely on timing considerations", the examiner is unclear as to how and particularly where the applicant's conclusion is reached from the Dokic reference. The examiner's understanding is that applicant is relying on the "sync" signal. The examiner's understanding is that this signal notifies the "control circuit" that the buffer is ready for processing at which point the system makes a determination as to which buffer contains the "identifier" (Col 9, Lines 24-29).

As aforementioned, the examiner's interpretation is that the claim merely requires for a "memory address" to be outputted in response to a match such that the "control circuit" is aware as to where to retrieve the packet including the associated "control information". The reference does not explicitly disclose as to "how" the "control circuit" determines which buffer is selected, nor does it explicitly disclose the composition of these buffers. The reference explicitly discloses that the preferred embodiment of the digital signal processor is a DSP2111 manufactured by Analog Devices® (Col 7, Lines 53-55). The ADSP-2100 Family User's Manual – Chapter 4 describes that the circular buffers rely on "addresses" in

order to determine where to locate the next piece of information in a circular buffer may be located (Sections 4.2.3 – 4.3.2). Accordingly, it would have obvious to one of ordinary skill at the time of the invention to utilize the teachings of the ADSP-2100 User's Manual such that the embodiment would implicitly "output an address in the memory responsive to a match" in order to know where to retrieve the "entire packet" comprising both the identifier and "control information" for the purposes of implementing the preferred embodiment explicitly disclosed by Dokic.

Claims 11 and 20 are rejected in view of the rejection of claim 1. The "method of demultiplexing a digital data stream" in conjunction with a "set-top-box" is met wherein the reference teaches the following steps: "inputting the digital data stream" (Figure 3; Col 5, Lines 60-67 – Col 6, Lines 1-9), "storing . . . all packet identifiers. . . required by the receiver" (Col 8, Lines 28-31, 58-60; Col 9, Lines 10-23), and "determining", "extracting", and "demultiplexing" under the control of a "second" and "third control circuit" packets responsive to a "match" (Col 8, Lines 20-52; Col 9, Lines 18-43).

Claims 3-4 and 13-14 are rejected in view of Figure 5 wherein "the second control circuit" [204] controls the transfer of and/or processes "the input data packet to a destination" such as data buffers [206/208/210] or host microprocessor as "identified by the control information" (Col 8, Lines 31-37, 53-67). It is taught that should the "input data packets" contain private data, the entire packet will either be "transferred". Alternatively, the packet may be "processed" such that only the payload data is "transferred" (Col 9, Lines 39-53).

Claims 5 and 15 are rejected wherein the Dokic reference teaches that the packet is "discarded" if a "match" is not found (Col 8, Lines 51-52)

Claims 6-7 and 16-17 are rejected wherein the reference teaches a method/apparatus for the interpretation and demultiplexing of received MPEG-2 transport packets (Col 7, Lines 49-59). The MPEG-2 standard (incorporated by reference) defines a transport stream as being logically constructed from a "packetized elementary stream" or PES packets. The instant application further supports this definition (Page 2, Lines 5-8).

In consideration of claims 8 and 18, the component elements of the "input" data stream are well known in the art, as evidenced by the MPEG-2 specification,. Figures 1-2 of the Dokic reference illustrates that the "input data packet comprises program specific information" or PSI tables (Col 2, Lines 3-19). As aforementioned, the receiver uses these PSI tables to derive PIDs that corresponds to desired programming which are subsequently used by the "second control circuit" [204] to "retain only those data packets having sections required by the receiver" (Col 2, Lines 29-44; Col 8, Lines 20-31, 48-52).

Claim 9 is rejected wherein the "first control circuit" is a "receiver processor" [106] which controls the overall operation of the "receiver" (Col 13, Lines 13-32). The "second" and "third control circuits" [204] are embedded within a digital signal processor [106] that is coupled to a PAL [118]. The digital signal processor [106] functions as both a "search engine" to identify buffered packets and a "transport processor" to move the packets into the appropriate buffer as aforementioned (Col 8, Lines 20-52).

Claim 19 is rejected wherein the "third control circuit" [204] "systematically" searches the transport packet buffers [200/202] for a "match". Figures 6A-C further illustrate a "systematic" method for "searching the memory" in conjunction with the demultiplexing process.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Beliveau whose telephone number is 703-305-4907. The examiner can normally be reached on Monday-Friday from 8:00 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 703-305-4795. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

SEB
May 21, 2003

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600